

SAC A method of associating a particular path defined in a page description language specification with a plurality of special attributes, comprising the steps of:

5 monitoring a first text string defined by a first page description language text command in the specification for a first special character or a first special string of characters, the first special character or the first special string of characters being indicative of a first special attribute;

10 monitoring a second text string defined by a second page description language text command in the specification for a second special character or a second special string of characters, the second special character or the second special string of characters being indicative of a second special attribute;

15 responsive to a detection of the first special character or the first special string of characters in the first text string, identifying a path defined by a page description language path command and having a predetermined relationship with the first text command in the specification as the particular path associated with the first special attribute; and

20 responsive to a detection of the second special character or the second special string of characters in the second text string, identifying the path defined by the page description language path command and having a predetermined relationship with the second text command in the specification as the particular path associated with the second special attribute.

2. The method of claim 1, wherein the predetermined relationship is satisfied by the path command being the first path command to follow the first and second text commands in the specification.

3. The method of claim 1, wherein the predetermined relationship is satisfied by the path command being grouped with the first and second text commands in the specification.

4. The method of claim 1, wherein the first special attribute is associated with a first merge file and wherein the second special attribute is associated with a second merge file.

5. A method for wrapping data to an arbitrary path defined by a page description language, comprising the steps of:

(a) designating a path defined in a page description language specification as a wrapping path, the wrapping path having a wrapping-path boundary;

(b) processing the specification to produce a template bitmap, the template bitmap being a bitmap or raster-data representation of a template image defined by the specification;

(c) associating a block of text with the wrapping path;

(d) associating an external bitmap with the wrapping path;

(e) merging the external bitmap into the template bitmap, the external bitmap having an external-bitmap boundary;

(f) adding the external-bitmap boundary to the wrapping-path boundary, forming a composite boundary; and

(g) merging bitmap representations of the text from the block of text, according to the composite boundary and according to a predefined flow rule, into the template bitmap to create a merged bitmap.

6. The method of claim 5 wherein the merging step (e) includes the step of merging the external bitmap into the template bitmap according to the wrapping-path boundary and according to the predefined flow rule.

7. A method for wrapping data to an arbitrary path defined by a page description language, comprising the steps of:

designating a path defined in a page description language specification as a wrapping path, the wrapping path having a boundary;

5 defining a first graphics state for the path;

defining a second graphics state for the path;

10 processing the specification to produce a template bitmap, the template bitmap being a bitmap or raster-data representation of a template image defined by the specification;

15 associating a text file with the wrapping path, the text file including a first block of text separated from a second block of text by a field delimiter;

creating first bitmap representations of the first block of text by applying the first graphics state to the first block of text;

merging the first bitmap representations of the text, according to the boundary and according to a predefined flow rule, into the template;

creating second bitmap representation of the second block of text by applying the second graphics state to the second block of text; and

merging the second bitmap representation of the text, according to the boundary and according to the predefined flow rule, into the template bitmap.

8. A method for wrapping data to an arbitrary path defined by a page description language, comprising the steps of:

designating a path defined in a page description language specification as a wrapping path, the wrapping path having a boundary;

5 defining a graphics state for the path;

processing the specification to produce a template bitmap, the template bitmap being a bitmap or raster-data representation of a template image defined by the specification;

10 associating a text block with the wrapping path, the text block including a plurality of words;

replacing all occurrences of a predetermined word in the text block with a substitute word;

creating bitmap representations of the text block by applying the graphics state to the text block; and

15 merging the bitmap representations of the text block, according to the boundary and according to a predefined flow rule, into the template.

9/ A method for wrapping data to an arbitrary path defined by a page description language, comprising the steps of:

designating a path defined in a page description language specification as a wrapping path, the wrapping path having a boundary;

defining a graphics state for the path;

processing the specification to produce a template bitmap, the template bitmap being a bitmap or raster-data representation of a template image defined by the specification;

10 associating a text block with the wrapping path, the text block including a plurality of words and a delimiter;

creating bitmap representations of the text block by applying the graphics state to the text block; and

merging the bitmap representations of the text block, according to the boundary, according to a predefined flow rule and according to the delimiter, into the template.

10. The method of claim 9, wherein the delimiter is a paragraph delimiter and the merging step includes the step of merging a bitmap representation of an indent or a line-space in place of the paragraph delimiter.

11. The method of claim 9, wherein the delimiter is an end-of-page delimiter and the merging step includes the step of ceasing the merging of the bitmap representations of the text block into the template.

12. A method for wrapping data to an arbitrary path defined by a page description language, comprising the steps of:

- (a) designating a path defined in a page description language specification as a wrapping path, the wrapping path having a wrapping-path boundary;
- (b) defining a graphics state for the path;
- (c) processing the specification to produce a template bitmap, the template bitmap being a bitmap or raster-data representation of a template image defined by the specification;
- (d) saving the template bitmap in memory;
- (e) associating a block of text with the wrapping path;
- (f) creating bitmap representations of the block of text by applying the graphics state to the block of text;
- (g) retrieving a first copy of the template bitmap from memory;
- (h) merging the bitmap representations of the block of text, according to the boundary and according to the predefined flow rule, into the first copy of the template until an end of the boundary is reached;
- (i) upon reaching the end of the boundary, retrieving a next copy of the template bitmap from memory; and

20 (j) merging a remainder of the bitmap representations of the block of text,
according to the boundary and according to the predefined flow rule, into the next copy
of the template.

13. A method for wrapping data to an arbitrary path defined by a page
description language, comprising the steps of:
- (a) accessing a data area defined in a page description language
specification, the specification further defining a graphics state corresponding to the
data area, the graphics state including at least one print attribute which controls the
appearance of data in the data area;
 - (b) monitoring a text string defined in the data area for a first special
character or first string of characters, the first character or first string of characters being
indicative of a wrapping command;
 - (c) responsive to a detection of the special character or string of
characters in the text string, (i) identifying a path defined by the page description
language specification and having a predetermined relationship with the data area as
being associated with the wrapping command, the path having a boundary, and (ii)
storing the graphics state corresponding to the data area in memory;
 - (d) associating a block of text with the wrapping command;
 - (e) applying the stored graphics state to the block of text to generate
bitmap representations of the block of text; and
 - (g) arranging the bitmap representations of the block of text, according to
the boundary and according to a predefined flow rule.

14. The method of claim 13, further comprising the steps of:

(b1) monitoring the text string for a second string of characters specifying a supplemental print attribute; and

(e1) applying the supplemental print attribute along with the stored

5 graphics state to the block of text to generate bitmap representations of the block of text.

15. The method of claim 13, further comprising the steps of:

(b1) monitoring the text string for a second string of characters specifying a supplemental print attribute; and

(g1) arranging the bitmap representations of the block of text, according to the boundary, according to a predefined flow rule and according to the supplemental print attribute.